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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/824,413	04/15/2004	David Meisels	2993-523US SC/ip	6481
32292	7590	09/15/2005		
OGILVY RENAULT LLP (PWC) 1981 MCGILL COLLEGE AVENUE SUITE 1600 MONTREAL, QC H3A 2Y3 CANADA				
EXAMINER WIEHE, NATHANIEL EDWARD				
ART UNIT		PAPER NUMBER		
3745				

DATE MAILED: 09/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/824,413

Applicant(s)

MEISELS, DAVID

Examiner

Nathan Wiehe

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 April 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9, 11-20 and 22-31 is/are rejected.
- 7) ☒ Claim(s) 10, 21 and 32 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 April 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 04152004, 03032005
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statements (IDS) submitted on 15 April 2004 and 03 March 2005 are noted. The submissions are in compliance with the provisions of 37 CFR 1.97 and 1.98. Accordingly, the information disclosure statements are being considered by the examiner.

Drawings

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: 150, 110, 104, and 106. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

3. The disclosure is objected to because of the following informalities:

The specification headings are underlined.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-5, 11, 13 and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Watanabe (6,146,091). Watanabe discloses a gas turbine shroud assembly including a shroud support (99), mounted to the gas turbine engine casing, and a shroud member (90) that is mounted to the shroud support (99). Watanabe's shroud assembly includes two cooling paths that extend through the shroud support (99), communicate with a common air supply (89), supply cooling air (89) to a first and second shroud surface (lower surface of plenums 96a & 96b) at different pressures, and are separated by a seal (97) extending between shroud support (specifically piece 92) and shroud member (90). The cooling paths (89) of Watanabe include two discontinuous pressure drops, the first occurs between the air supply and the area defined by parts 99 and 92 and the second occurs when crossing the impingement plate

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(92) entering plenums (96). It is noted that the "pressure partition" (97) of Watanabe is a seal because it prevents cooling air from traveling between plenums 96a and 96b.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 6-9, 12, 14, 16-20 and 22-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watanabe in view of Maier (5,868,398). Watanabe discloses a gas turbine shroud assembly as described in the rejection of claim 1 above also including a radially outward groove (98) in shroud member (90) that is used in conjunction with seal (97). Watanabe further discloses a perforated impingement plate (22) mounted to the radially inner surface of the shroud support (99) that delivers cooling air at different pressures to the upstream and downstream plenums (96). However, Watanabe does not disclose the use of a flexible dogbone seal. Maier teaches the use of a flexible dogbone seal in a gas turbine shrouds. Maier discloses a flexible dogbone seal (58) slidably received between two corresponding grooves (34). Maier's seal allows for relative motion of turbine parts and inherently the thermal expansion of those parts. Maier's seal is provided in a plurality of circumferentially arranged linear segments. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the turbine shroud assembly of Watanabe

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by replacing the partition seal with a flexible dogbone seal, including a corresponding groove in the shroud support, as taught by Maier, in order to provide a flexible seal that allows for relative movement of turbine parts.

Allowable Subject Matter

8. Claims 10, 21, and 32 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Prior Art

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The patent issued to McLean discloses a dogbone seal for use in a turbine. The patent issued to Burdick discloses a turbine shroud incorporating multiple cooling chambers. The patent issued to Correia discloses a turbine shroud including upstream and downstream cooling chambers.

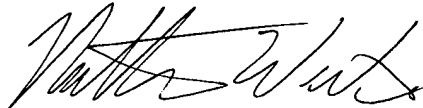
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nathan Wiehe whose telephone number is (571)272-8648. The examiner can normally be reached on M-F.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Look can be reached on (571)272-4820. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Nathan Wiehe
Examiner
Art Unit 3745



Rinaldi I. Rada
Supervisory Patent Examiner
Group 3700